

PATENTS  
09/802,092  
DOCKET 7012

## IN THE CLAIMS

Please amend the claims as follows:

1. (Currently amended) A method of controlling traffic loading on physical links between a cable modem termination system (CMTS) and a plurality of Internet Service Providers (ISP) in a cable data system, comprising the steps of:

receiving a request for bandwidth on a ~~cable data system link~~ one of the physical links for a first ISP, wherein the request is initiated by a requesting subscriber;

determining available bandwidth on said ~~cable data system~~ physical link;

determining available bandwidth on the ~~cable data system~~ physical link for the first ISP;

comparing available bandwidth for said first ISP with the amount of requested bandwidth; and

granting or denying cable data service to the new subscriber based upon the determination of whether the available bandwidth is greater than, less than or equal to the bandwidth to be allocated to the new subscriber.

2. (Currently amended) The method according to claim 1, further comprising the step of:

transferring the new subscriber to a different ~~cable data system~~ physical link with more available capacity when the available bandwidth on the requested ~~cable data system~~ physical link for the first ISP is less than the bandwidth requested by the new subscriber.

3. (Currently amended) The method according to claim 1, wherein said new subscriber's traffic flow is randomly transferred to a different ~~cable data system~~ physical link when available bandwidth is less than or equal to the bandwidth to be allocated to the new subscriber.

4. (Currently amended) The method according to claim 1, further comprising transferring the subscriber to another physical link with more available bandwidth after determining available bandwidth on other physical links for the first ISP, wherein after transfer and establishment of a session, the link over which the subscribers traffic between the ISP and CMTS is not changed for the remainder of the session, wherein availability of bandwidth for said first ISP on other cable data system links is determined before the new subscriber is transferred to a cable data system link with more availability.

5. (Currently amended) The method according to claim 1, further comprising the steps of:

granting cable data service to said requesting subscriber on said requested ~~cable data system~~ physical link based on CAC algorithms even though the available bandwidth on the requested ~~cable data system~~ physical link is less than the bandwidth being allocated to the new subscriber; and

flagging said requested ~~cable data system~~ physical link as being over subscribed for said first ISP.

PATENTS  
09/802,092  
DOCKET 7012

6. (Currently amended) The method according to claim 5, wherein data packets from said first ISP for at least some subscribers on the ~~cable data system~~ physical link are purposefully lost when said ~~cable data system~~ physical link is over subscribed for said first ISP, wherein which packets to drop during said purposeful losing of packets is determined by the CMTS.

7. (Previously amended) The method according to claim 6, wherein the CMTS determines that data packets are to be randomly lost.

8. (Original) The method according to claim 6, wherein data packets are selected to be lost based on each subscribers level of service, wherein higher levels of service lose fewer packets.

9. (Original) The method according to claim 1, further comprising the step of: granting cable data service to said requesting subscriber using available bandwidth reserved for a second ISP.

10. (Currently amended) A system for controlling traffic loading on physical links between a cable modem termination system (CMTS) and a plurality of Internet Service Providers (ISP) in a cable data system, comprising:

means for receiving a request for bandwidth on a ~~cable data system~~ physical link for a first ISP, wherein the request is initiated by a requesting subscriber;

means for determining available bandwidth on said ~~cable data system~~ physical link;

means for determining available bandwidth on the ~~cable data system~~ physical link for the first ISP;

means for comparing available bandwidth for said first ISP with the amount of requested bandwidth; and

means for granting or denying cable data service to the new subscriber based upon the determination of whether the available bandwidth is greater than, less than or equal to the bandwidth to be allocated to the new subscriber.

11. (Currently amended) The system according to claim 10, further comprising:

means for transferring the new subscriber to a different ~~cable data system~~ physical link with more available capacity when the available bandwidth on the requested cable data system link for the first ISP is less than the bandwidth requested by the new subscriber.

12. (Currently amended) The system according to claim 10, wherein said new subscriber's traffic flow is randomly transferred to a different ~~cable data system~~ physical link when available bandwidth is less than or equal to the bandwidth to be allocated to the new subscriber.

PATENTS  
09/802,092  
DOCKET 7012

13. (Currently amended) The system according to claim 10, wherein availability of bandwidth for said first ISP on other links is determined before the new subscriber is transferred to a ~~cable data system~~ physical link with more availability.

14. (Currently amended) The system according to claim 10, further comprising:

means for granting cable data service to said requesting subscriber on said requested ~~cable data system~~ physical link based on CAC algorithms even though the available bandwidth on the requested ~~cable data system~~ physical link is less than the bandwidth being allocated to the new subscriber; and

means for flagging said requested ~~cable data system~~ physical link as being over subscribed for said first ISP.

15. (Currently amended) The system of claim 14, wherein data packets from said first ISP for at least some subscribers on the ~~cable data system~~ physical link are purposefully lost when said ~~cable data system~~ physical link is over subscribed for said first ISP, wherein which packets to drop during said purposeful losing of packets is determined by the CMTS.

16. (Previously amended) The system according to claim 15, wherein the CMTS determines that data packets are to be randomly lost.

17. (Original) The system according to claim 15, wherein data packets are selected to be lost based on each subscribers level of service, wherein higher levels of service lose less packets.

18. (Original) The method according to claim 10, further comprising:  
means for granting cable data service to said requesting subscriber using available bandwidth reserved for a second ISP.